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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,517	02/15/2001	John W. Linebarger	1459	3317
21396	7590	02/22/2006	EXAMINER	
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			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/784,517

Applicant(s)

LINEBARGER ET AL.

Examiner

David C. Payne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 29 November 2005 have been fully considered but they are not persuasive.

Combs show the use of a router that is used to convert data and RF signals between frequencies.

Combs also disclosed a wavelength router (308 of Figure 4) used to interchange between different wavelengths which is used for data or RF signals,

The mux/demux/router 308 demultiplexes the second downstream signals (digital signals) into separate second downstream signals corresponding to each of the destination end-users 112 based on a multiplexing scheme such as TDM, FDM with frequency conversion, etc., for example. TDM is used as an example in the following discussion. The demultiplexed second downstream signals are grouped into downstream signals destined to end-users 112 serviced by the same mFNs 108. The grouped downstream signals are sent to the lightwave interface device 312 for transmitting to the respective mFNs 108 via the optical fiber trunks 120-122. (e.g., col./line: 7/13-25)

In addition to the switch (router) in Combs, disclosed a switch Fig. 10.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 9, 18 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Combs et al.

US 6751417 (Combs).

Regarding claim(s) 1, 9, 32

Combs disclosed

A method for transmitting signals comprising:

transmitting a data signal over a first wavelength on a single fiber strand;

and

transmitting a radio frequency signal over a second wavelength on the same single fiber strand

(e.g., col./line: 1/65-67, 2/1-5, 2/20-45, 4/10-25, 4/55-67, 5/50-60).

Combs also disclosed a wavelength router (308 of Figure 4) used to interchange between different wavelengths which is used for data or RF signals.

Regarding claim(s) 2, 3, 4, 5, 18

Combs disclosed transmitting a plurality of data and RF signals over multiple wavelengths;

and transmitting a plurality of other radio frequency signals over a second wavelength

(e.g., col./line: 1/65-67, 2/1-5, 2/20-45, 4/10-25, 4/55-67, 5/50-60)

Combs also disclosed a wavelength router (308 of Figure 4) used to interchange between different wavelengths which is used for data or RF signals.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Combs US 6751417 (Combs) in view of Bloom US 6,104,513 (Bloom).

Regarding claim(s) 6

Combs does not disclose wherein the data signal comprises an Ethernet based signal.

Bloom disclosed the use of Ethernet data signals (e.g., col./line: 2/25-30). It would have been obvious to one of ordinary skill in the art at the time of invention to use Ethernet data equipment so since this standard is the most widely used LAN networking technology integrated into personal computers. Users therefore would not be required to upgrade network interface cards to connect to the network.

5. Claims 7, 8, 10-12, 14-17, 19-31, 33-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Combs US 6751417 (Combs) in view of Cheong et al. US 6,477,154 B1 (Cheong).

Regarding claim(s) 7

Combs does not disclose that the data transmission is an asynchronous signal.

Cheong disclosed wherein the data signal comprises an asynchronous signal (Figure 1, 106).

It would have been obvious to one of ordinary skill in the art at the time of invention to use asynchronous signals for data transmission in the Combs invention since ATM is a well known and

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used widely data transmission standard found in telecommunications. Using such a standard allows customer CPE to connect to a wide variety of services in the network.

Regarding claim(s) 8

Combs does not disclose that the data signal comprises a synchronous optical network based signal. However, Cheong does disclose that the system incorporates a public switched telephone network. It would have been obvious to one of ordinary skill in the art at the time of invention the long practice of modern public networks to use synchronous optical networks for the benefit of a hierarchical multiplexing high-speed transmission means (e.g., col./line: 4/35-40).

Regarding claim(s) 10

Combs does not disclose transporting PCS signals over an optical infrastructure.

Cheong disclosed transporting PCS signals over an optical infrastructure (e.g., col./line: 4/40-47).

It would have been obvious to one of ordinary skill in the art at the time of invention to use PCS signals in the Combs invention since PCS is a well known and used widely voice transmission standard found in telecommunications. Using such a standard allows customer CPE to connect to a wide variety of services in the network.

Regarding claim(s) 11 and 12,

Combs does not disclose the use of LMDS and MMDS service.

Cheong disclosed an infrastructure that is at once a local multipoint distribution system (Figure 1, LMDS)

but does not disclose that a multipoint multi-channel distribution service signal (MMDS) given that a plurality of services from a service node are distributed to a number of users over multiple wavelengths.

It would have been obvious to one of ordinary skill in the art at the time of invention LMDS and MMDS

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is an alternative system for transmitting RF signals, since the main difference between LMDS and MMDS is the cost to build out. Where the former includes a narrow depth of coverage, one MMDS site can cover a larger geographic area.

Regarding claim(s) 14-17

The modified invention of Combs and Cheong disclosed cross-connecting data or radio frequencies between wavelengths or paths (e.g. Cheong, col./line: 4/1-25, 6/15-25).

Regarding claim(s) 19, 21, 25, and 33

Combs does not disclose a first and second node transmitting data and radio frequency signals exactly as claimed. However, Cheong does disclose that the individual nodes, e.g., (109-1) and (109-2) transmit the data and RF signals over different wavelengths. It would have been obvious to one of ordinary skill in the art at the time of invention that different nodes in Combs would be configured to transmit data and RF over similar corresponding wavelengths for the benefit of reduced wavelength assignment for similar functions in the network and aggregating similar signals in the network a common service points.

Regarding claim 20, 24

The modified invention of Combs and Cheong disclosed a switch/cross connect (Cheong, Fig. 1 #101) fiber optic transmitter (Cheong, Fig. 2 #213) and fiber optic receiver (Cheong) and Fig. 10.

Regarding claims 23, 27

while The modified invention of Combs and Cheong does not describe the node (Cheong, Fig. 2, page 11 paragraph 0075) as a service node and point of presence, it would have been obvious to one of ordinary skill in the art at the time of invention that the node functions as the applicant has claimed since it is a central distribution a number of servers of telephony, computer and video services.

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Regarding claims 22, 26

The modified invention of Combs and Cheong optical transceivers (Cheong, Fig. 2 #213) transmit mixed traffic by definition since the transmitter transmits both data and RF signals over WDM.

Regarding claim(s) 28-31, 34-37, and 39-42

The modified invention of Combs and Cheong disclosed cross-connecting data or radio frequencies between wavelengths or paths (e.g. Cheong, col./line: 4/1-25, 6/15-25).

Regarding claims 38,

While the modified invention of Combs and Cheong does not disclose using a jumper in the switch, it would have been obvious to one of ordinary skill in the art the time of invention that jumpers can be used to connect points in a cross point switch. The principle of connecting endpoints in a switch is extremely well known in the art and does not constitute patentable subject matter.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Combs US 6751417 (Combs) in view of Cheong et al. US 6,477,154 B1 (Cheong) and Cyr et al. US 6,223,055 B1 (Cyr).

Regarding claim(s) 13

Combs disclosed the WDM transmission over a single fiber above but not the introduction of wireless radio signals. Cheong disclosed using a similar infrastructure with wireless radio signals but not unlicensed band signals.

It would have been obvious to one of ordinary skill in the art at the time of invention to integrate wireless radio signals as in Cheong into the Combs invention to allow extension of micro cellular antennas closer to the user as disclosed.

Cyr disclosed unlicensed radio frequency spectrum use in a networked environment (e.g., col./line: 5/15-25).

It would have been obvious to one of ordinary skill in the art at the time of invention to route unlicensed radio spectrum over the modified infrastructure for providing ubiquitous service to all user

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groups. Furthermore, Cyr disclosed in the same passage the large number of customers who have access to this type of service. The combination of the two merely provides another access mechanism to a larger group of customers who might take other data services on the modified infrastructure.

Conclusion

7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7:00a - 4:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DCP


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